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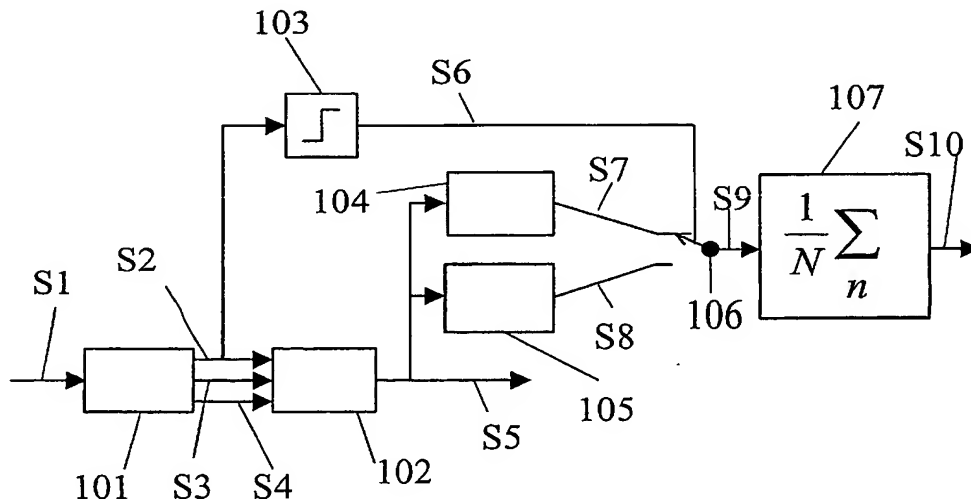
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(57) Abstract: System and method of estimating radio channel bit error rate (BER) in a digital radio telecommunications system wherein the soft output of the turbo decoder is used as pointer or index to look-up-tables containing the bit-wise BER of a certain bit in the data field of the received frame. A quantizer quantizes the received data frame and the quantized bit operates on a switch which selects the appropriate look-up-table. By means of accumulation and scaling the average BER of a certain amount of bits are calculated. Decoding bit-errors may occur but as they are submitted to posterior probability estimation, systematic errors which normally happen at low SNR are avoided.